Internet Shutdowns

An Internet Society Public Policy Brief

October 2025

Introduction

Government-mandated Internet shutdowns have become the "new normal" in many countries, primarily driven by political and national security concerns.

The United Nations considers cutting users off from Internet access, regardless of the justification provided[1], to be disproportionate and thus a violation of Article 19, Paragraph 3, of the International Covenant on Civil and Political Rights. It also calls upon all States to ensure that Internet access is maintained at all times, including during times of political unrest. (La Rue, 2011)
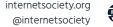
Internet shutdowns are a harmful and disproportionate response to complex issues. This policy brief highlights the impacts (externalities) of Internet shutdowns. It urges policymakers to adopt policies that eliminate shutdowns as a tool and to analyze and weigh the effects of restricting access when addressing policy and security issues, while also advocating for a free and open Internet.

Recommendations for Governments

- **Commit to an open, unrestricted Internet**: Governments should adopt a no-shutdown policy as part of their commitment to an open, unrestricted Internet. They should address issues at their source rather than resorting to Internet shutdowns.
- **Measuring the impact**: To safeguard the economy and maintain infrastructure trust and reliability, governments should analyze the negative impact of Internet shutdowns on productivity, business confidence, and short—and long-term financial investments.

Recommendations for the Technical Community and Industry

- **Building resilient infrastructure**: The Internet technical community, industry groups, and local government should work together to deploy distributed and numerous Internet exchange points and diversify Internet connectivity at international borders. Doing so avoids the risks of a single "kill switch" and can limit the scale of a shutdown.

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[1] including on the grounds of violating intellectual property rights law

- **Diversifying voices**: Investors should incorporate Internet shutdowns into their business risk assessment because a shutdown can undermine their operations and cause financial loss.

Recommendations for Civil Society

- **Perform watchdog functions**: Civil society organizations and other partners should continue to track and document the impact of Internet shutdowns and play a key role in calling for government accountability and transparency.
- **Building awareness**: Civil society organizations should promote public and international awareness about the human, economic, and democratic costs of Internet shutdowns. They should also build the capacity of local groups and activists to prepare for and respond.

Defining "Internet Shutdown"

An Internet shutdown is an intentional disruption of Internet or electronic communications, rendering them inaccessible or effectively unusable, for a specific population or within a location, often to exert control over the flow of information. (Pulse, 2025a)

Internet shutdowns can happen at a national level, preventing users across the entire country from accessing the Internet, or at a regional (local) level, cutting mobile and/or fixed Internet access in a state, city, or other localized area. For this briefing document, content blocking and censorship—shutting off access to specific Internet destinations and content—should be considered separate and distinct.[2]

Where We Are

Internet shutdowns started gaining global attention during the 2011 Egyptian uprising, when authorities shut down the Internet for nearly a week to disrupt protestors' communications. (Williams, 2011) Since then, the use of Internet shutdowns as a tool for political purposes has steadily risen.

In 2024, the Internet Society Pulse (Pulse, 2025c) documented 133 shutdown incidents, an increase from 124 incidents in the preceding year. This escalation has continued into the first half of 2025, with 40 incidents reported[3].

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[2] Please refer to *Internet Society's Policy Brief: Perspectives on Internet Content Blocking* for additional information on such actions.

[3] A temporary moderation in the trend of Internet shutdown incidents was observed in 2021 (68 incidents) and 2022 (54 incidents) following a peak of 167 incidents in 2020. This could be partially influenced by the heightened appreciation for internet availability during the COVID-19 pandemic. The overall pattern, however, indicates a return to increasing shutdown occurrences. (HRW, 2020; Skok, 2023)

While the phenomenon is global, shutdown incidents tracked on Internet Society Pulse indicate that India has experienced the most documented shutdowns since 2019, followed by the MENA and Sub-Saharan regions.

Governments implementing Internet shutdowns use multiple justifications, including maintaining social peace, responding to security incidents, combating fake news, and preventing cheating in public exams. However, this practice is frequently ineffective and disproportionate regardless of the stated reason.

Against this backdrop, a growing number of governments, businesses, civil society organizations, technical community bodies, and individuals have been speaking up against Internet shutdowns. The *KeepItOn!* Coalition led by AccessNow, for instance, includes 345 organizations from over 106 countries.

Key Considerations

Internet shutdowns have far-reaching economic, human rights, and technical impacts. They undermine users' trust in the Internet, setting in motion a range of consequences for the local economy, the reliability of critical online government services, and even for the reputation of the country and its digital environment.

Policymakers must fully weigh the economic and social impact alongside any security imperatives when considering an Internet shutdown. Rather than resorting to this blunt, disproportionate tool, they should prioritize effective, targeted, and rights-respecting solutions that maintain the fundamental commitment to an open, unrestricted, and globally connected Internet.

Economic Impact

Internet shutdowns affect economies in multiple ways, upsetting productivity and causing financial losses in time-sensitive transactions. The Internet Society Pulse NetLoss framework uses econometric tools to provide a rigorous estimate of the impact of Internet shutdowns on countries' Gross Domestic Product (GDP). (Mitchell, 2023)

For example, the Pulse NetLoss calculator estimates that the Bangladesh government's decision to shut down access to the Internet for one day during the August 2024 constitutional crisis, following the July revolution, cost the country's economy $410,943 USD to the country's economy. While this is a conservative estimate of the direct impact on GDP, its real-world consequences are devastating for a least developed country (LDC). This single-day loss is equivalent to the daily wages of over 75,000 workers in the nation's critical garment industry, disrupting livelihoods and household incomes. Furthermore, this figure does not capture the cascading losses for the thousands of small businesses, online freelancers, and e-commerce platforms that are entirely dependent on Internet connectivity. A week-long shutdown—a common occurrence in times of unrest—would scale this direct economic damage to nearly $3 million USD, an amount equivalent to the daily wages of more than 525,000 people. This level of disruption inflicts far greater, unquantifiable harm by eroding investor confidence

and signaling that the country is not a reliable place to do business in the global digital economy. For other larger economies, the estimate would be multiplied; if Italy, for example, decided to shut down access to the Internet for one day, the cost is estimated to be close to USD $5 million.

Governments that repeatedly rely on Internet shutdowns as a policy tool risk jeopardizing foreign investment in the country. This is the case for countries like Bangladesh, which had 10 incidents between 2018 and 2025, or Iraq, which had 140 incidents between 2018 and 2025. (Pulse, 2024, 2025b) In Iraq, the use of shutdowns has increased year after year, despite a lack of evidence of their effectiveness and the rising voices of organizations and experts who are clarifying the negative economic impacts of these actions.

The long-term economic damage dwarfs any supposed short-term benefit of Internet shutdowns. Foreign investors consider, among other factors, the availability and reliability of Internet access in their decision to do business in the country.

Notwithstanding the impact on the entire economy, businesses that are heavily dependent on electronic transactions are particularly exposed to very serious consequences. For example, e-payments are becoming increasingly common in the developed world and many developing countries. In countries such as India, where the government has launched an ambitious plan towards demonetization and digital payments, frequent Internet shutdowns across various states are directly at odds with digital economy outlooks. (Bajoria, 2023)

While shutdowns raise financial and reputational risks for ICT companies and their investors, the secondary economic impacts resulting from a climate of uncertainty can potentially discourage foreign investors and spillover on a wide range of sectors, including education, healthcare, public transport, emergency services, and business. (Azim, 2025)

Human Rights Impact

People rely on the Internet for various essential activities, including staying in touch with family and friends, building local communities, accessing and sharing knowledge, and holding institutions accountable. People's ability to use the Internet cannot be separated from their rights to freedom of expression, opinion, and peaceful assembly. These rights—recognized in the Universal Declaration of Human Rights and reflected in the Constitutions of many countries where those shutdowns occur—entrust governments with the responsibility to respect and protect their citizens' enjoyment of them. As stated by the UN Human Rights Council in 2012 and reaffirmed since, people should enjoy the same protections of these rights whether in online or offline contexts. (*The Promotion, Protection and Enjoyment of Human Rights on the Internet*, n.d.)

As such, Internet shutdowns, particularly those that disable all means of communication, should be considered as potential human rights violations. While rights such as free speech are not absolute and can be restricted on exceptional grounds—such as national security and public order—governments

also need to follow the three-part test laid out in Article 19(3) of the ICCPR, including meeting proportionality and necessity criteria. (UNGA, 1966)

In recent years, the Human Rights' community has stepped up its efforts to address the impact of Internet shutdowns on rights. This includes the work within UN bodies[4], such as that of the former UN Special Rapporteur on Freedom of Opinion and Expression Shutdowns, (OHCHR, 2017) the Human Rights Council Resolution (UNHRC, 2016), and Digital Rights organizations and coalitions,(Freedom House, 2024; KeepItOn, 2025)

Technical Impact

When a complete Internet shutdown occurs in country, the technical impact can extend beyond the country's borders to the rest of the global Internet. Being part of an interconnected network means having responsibility towards the whole network, and shutdowns hold the potential to generate systemic risks.

Web-based services or applications developed and hosted in affected countries often become popular with expats and/or émigrés. The extended communities frequently use them to maintain communication, transfer money, or purchase goods. Other hosted services and applications may be used across an international organization's global supply chain. While an Internet shutdown in the hosting country is focused on disrupting access in that country, it ultimately blocks access to these services and applications from the rest of the global Internet, cutting off critical inter-personal communication, financial transactions, and enterprise workflows.
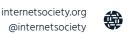
The interconnected nature of the Internet also means that a disruption in one country may significantly impact neighboring countries. A prime example was the Internet shutdown in Sudan in April 2013, effectively cutting off access in neighboring Chad. This happened because Chad, a landlocked country, relies on Sudan for its international Internet links and lacks an alternative route. When Sudan's Internet was shut down, it also disrupted the transit connection that Chad depended on. (Polk, 2024)

Wide-scale Internet shutdowns can also have a detrimental impact on the Domain Name System (DNS).[5] In some situations, shutdowns are implemented asymmetrically, where traffic from the global Internet is prevented from reaching the country suffering the shutdown, but where traffic from the country can still reach the global Internet. In such cases, a surge in DNS requests occurs as systems in the impacted country repeatedly try in vain to resolve hostnames— the DNS servers send responses, but they are not received by the originating systems, prompting these systems to keep resending the

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[4] See former UN Special Rapporteur on proportionality of Internet Shutdowns:
http://www.ohchr.org/EN/Issues/FreedomOpinion/Pages/SR2017ReporttoHRC.aspx, Human Rights Council Resolution:
https://documents.un.org/doc/undoc/ltd/g16/131/89/pdf/g1613189.pdf

[5] Domain Name System is the hierarchical and decentralized naming system for computers, services, or any resource connected to the internet or a private network. It translates human-friendly domain names (like www.internetsociety.org) into numerical IP addresses (like 104.18.17.166), which computers use to identify each other on the network.

requests. Depending on the resilience of the authoritative DNS infrastructure, this increased load could slow server response time or cause the servers to become unavailable.

In addition, some users have configured backup DNS resolvers outside their local service providers. If these local resolvers fail to complete the requested lookups, clients will switch to these backup resolvers. This can potentially result in information "leaking" to out-of-country resolvers and service providers and create additional unexpected load on this resolver infrastructure.

Internet routing policy is based on relationships between Autonomous Systems (ASes),[6] either on a customer-provider or a peer-to-peer basis. In both cases, interconnections can cross national boundaries, and a network could suffer reduced availability and increased latency as collateral damage if the upstream provider's or peer's network is impacted by an Internet shutdown, even though the two are in different countries.

Finally, if Internet shutdowns are used as a blunt force means of blocking access locally to a specific service or application, access to unrelated services may also be impacted as collateral damage. For example, ordering and Internet shutdown to block access to social media services will also limit local access to Internet-based ride sharing, feed delivery, and banking applications, likely creating a significant disruption for transportation services. This can happen as different services often rely on the same underlying infrastructure or cloud services as the targeted social media platforms. They might share IP addresses with other services, or the blocking mechanism may be implemented in a way that is not granular enough to distinguish between different types of traffic.

Challenges

The increasing frequency of Internet shutdowns is a critical concern for the future of the network. Although governments may face demanding situations that prompt these measures, shutdowns are a disproportionate and ineffective solution that often has unintended negative consequences.

National Security and Public Order

Governments have legitimate concerns and duties to safeguard public order and national security for their citizens. Yet, any measure restricting free expression or association to advance such objectives must remain exceptional, be grounded in law, and be strictly necessary and proportional to achieve a legitimate aim.

During shutdowns, access and coordination of emergency services can be compromised. Citizens also lack access to information and feel that their fundamental rights are being violated, nurturing

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[6] An Autonomous System (AS) is a large network or group of networks managed by a single entity, like an Internet Service Provider (ISP) or a major corporation. Each AS has a unique Autonomous System Number (ASN) and a specific routing policy, which it uses to exchange traffic with other ASes on the internet.

discontent and a feeling of insecurity that can generate negative consequences for the country's long-term stability.

Cross-Border Enforcement

Governments face the challenge of applying their national legislation in an online environment marked by cross-border content platforms. In a globally connected and open Internet, removing content considered problematic in a specific jurisdiction is not as simple as asking a local provider to remove that content. Unless they can get effective collaboration from such platforms, this cross-border complexity may lead some governments to opt for the more heavy-handed approach of shutting down the ability to access these platforms entirely.

Effectiveness

There is currently no evidence of the effectiveness of shutdowns in solving the issues they are meant to address, as when they are meant to restore public order or prevent cheating in exams.

Research (Rydzak, 2019b) has found that information blackouts resulting from Internet shutdowns can result in increased violence, with violent tactics that rely less on effective communication and coordination being substituted for non-violent protests that depend on the Internet for organization. Multiple accounts of collateral damage provoked by these measures exist, including impacts to civil, political, economic, social, and cultural rights. (Rydzak, 2019a)

Studies indicated that Internet shutdowns do not prevent cheating in exams, and other more proportionate methods that do not negatively impact entire countries, their economies, and residents. (Cupler & Abrougui, 2022)

In addition, Internet shutdowns tend to attract international attention and create pressure on countries that undertake them. This relates to the so-called "Streisand effect," where the attempt to silence voices or hide information leads to the unintended consequence of attracting more attention.

Guiding Principles

Freedom of Expression

Freedom of expression should be the norm, and any limitation to this right should be the exception. The central role of the Internet in users' social and economic lives recently led the United Nations to enact a resolution supporting "the promotion, protection, and enjoyment of human rights on the Internet." (*The Promotion, Protection and Enjoyment of Human Rights on the Internet*, n.d.) The resolution condemns state efforts to prevent or disrupt access to information online intentionally.

Due Process of Law, Proportionality, and Necessity

Under international law, the due process of law is regarded as the embodiment of basic standards of natural justice. Alongside due process, proportionality and necessity are some of the other principles that should guide the actions of any policymaker considering using Internet shutdowns as a policy tool.

Necessity means that any restriction of Internet access must be limited to measures which are strictly and demonstrably necessary to achieve a legitimate aim. It should be demonstrated that no other measure would achieve similar effects with more efficiency and less collateral damage.

Necessity also implies an assessment of the proportionality of the measures. Any restriction of Internet access must also be proportional. A **proportionality** assessment should ensure that the restriction is "the least intrusive instrument amongst those which might achieve the desired result." (OHCHR, 1999) The limitation must target a specific objective and not unduly intrude upon other rights of targeted persons.

Furthermore, in most cases, even short-duration shutdowns may have implications extending long after connectivity returns. The loss of trust and confidence in the Internet as a reliable platform of opportunities can result in hard-to-quantify negative impacts. Shutdowns also highlight that the government believes that taking such action is acceptable, suggesting that the country's economy is not ready to join the global digital economy.

Recommendations

Internet shutdowns are unequivocally harmful to the global Internet and to local communities. Governments should be aware that Internet shutdowns affect many sectors of society, and it is imperative that governments commit to an open, unrestricted Internet and adopt a no shutdowns policy, rather than turning to shutdowns as a policy tool.

Governments, the technical community, and civil society have roles to play in preventing the negative effects of Internet shutdowns.

Recommendations for Governments

- **Commit to an open, unrestricted Internet**: Governments should adopt a strict "no shutdowns" policy as a core commitment to an open and unrestricted Internet. This approach requires them to focus on identifying and implementing best practices and effective, source-level solutions to address problems, rather than relying on blunt restrictions to access. Sharing successful experiences across regions can accelerate the adoption of these non-restrictive solutions. Governments should also be transparent about any limitations they exert on Internet access.
- **Measuring the impact**: As part of efforts to safeguard the economy and maintain infrastructure trust and reliability, governments should analyze the negative effects of

Internet shutdowns on productivity, business confidence, and both short- and long-term financial investments. Network disruptions hinder productivity, negatively affect business confidence, and can damage financial investments over time, so governments should be very clear about the implications of using them.

Recommendations for the Technical Community and Industry

- **Building resilient infrastructure**: The Internet technical community, industry groups, and local government are critical in expanding resilient connectivity solutions. More distributed and numerous Internet exchange points, and increased Internet connectivity diversity at international borders, will make it more difficult and cumbersome for governments to implement a single "kill switch" Effectively.
- **Diversifying voices**: Venture capitalists and investors should incorporate Internet shutdowns in their risk assessment. How Internet shutdowns can completely undermine the ability of small and medium enterprises, including those outside the ICT sector, to the operate and contribute to the economy's future must also be recognized more widely.

Recommendations for Civil Society:

- **Perform watchdog functions**: Civil society organizations, and other partners, should continue to track the impact of Internet shutdowns and play a key role in calling for government accountability and transparency. Alongside these peers, the technical community should continue to expand its Internet monitoring and measurement efforts and make associated tools and data publicly available. An increased ability to actively and passively analyze collected data from inside and outside networks can help bring greater visibility to Internet shutdowns, including their scope, duration, and impact.
- **Building awareness**: Civil society organizations should promote public and international awareness about the human, economic, and democratic costs of Internet shutdowns. They also build the capacity of local groups and activists to prepare for and respond to these disruptions.

Additional Resources

Internet Society Pulse Shutdowns Tracker

https://pulse.internetsociety.org/shutdowns

Internet Society Position on Internet Shutdowns.

https://www.internetsociety.org/resources/doc/2019/internet-society-position-on-internet-shutdowns/

Africa's Digital Economy Can't Afford Shutdowns

https://pulse.internetsociety.org/blog/africas-digital-economy-cant-afford-shutdowns

Will Election-related Internet Shutdowns Continue in 2025?

https://pulse.internetsociety.org/blog/will-election-related-internet-shutdowns-continue-in-2025

The Human Cost of Internet Shutdowns in India

https://pulse.internetsociety.org/blog/the-human-cost-of-internet-shutdowns-in-india

Why it is Challenging to Measure Regional Shutdowns

https://pulse.internetsociety.org/blog/why-it-is-challenging-to-measure-regional-shutdowns

A Human Right to the Internet Hasn't Stopped Internet Shutdowns. It's Time to Take it to Court

https://pulse.internetsociety.org/blog/a-human-right-to-the-internet-hasnt-stopped-internet-shutdowns-its-time-to-take-it-to-court

#KeepItOn Campaign. Access Now. https://www.accessnow.org/keepiton/

Freedom Online Coalition Joint Statement on Protecting Human Rights Online and Preventing Internet Shutdowns in Times of Armed Conflict https://freedomonlinecoalition.com/joint-statement-on-protecting-human-rights-online-and-preventing-internet-shutdowns-in-times-of-armed-conflict/

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